

## **Part II: Background: New Jersey Water Resources**

## Part II: BACKGROUND

### New Jersey Water Resources

New Jersey is the fifth smallest state in the nation and contains a wide variety of land use types, water resources, geologic characteristics, and natural biota and fauna. Within the state's 7,788 square miles are 127 miles of coastline; 7,840 miles of rivers and streams (based upon USEPA's River Reach File 3 (RF3) hydrology); and 109 square miles (69,920 acres) of lakes and ponds larger than 2 acres. In addition, there are 1,482 square miles of fresh and saline marshes and wetlands, and 1,069 square miles of coastal waters. A summary of the state's population and water resources is presented in Table II-2.1 below:

**Table II-2.1: New Jersey Water Resources Atlas**

<b><u>Resource</u></b>	<b><u>Extent</u></b>
State Population (2000)	8,414,350
State Surface Jurisdictional Area	8,919 sq. miles <sup>1</sup>
State Surface Area	7,788 sq. miles <sup>2</sup>
<b>Rivers and Streams</b>	
Miles of rivers and streams (total)	7,840
Miles of nontidal rivers and streams	6,330
Miles of tidal river and streams	1,510
Miles of perennial rivers and streams (nontidal and tidal)	7,530
Miles of intermittent (non-perennial) streams (nontidal and tidal)	310
Miles of canals and ditches <sup>3</sup>	675
Border miles shared rivers/streams (nontidal and tidal)	197
<b>Lakes, Ponds and Reservoirs</b>	
Number of lakes/reservoirs/ponds (2 acres and larger)	3,278
Acres of lakes/reservoirs/ponds (2 acres and larger)	69,920
Number of significant publicly owned lakes/reservoirs/ponds	380
Acres of significant publicly owned lakes/reservoirs/ponds	24,000
<b>Estuaries and Ocean</b>	
Square Miles of Estuaries/Harbors/Bays	615
Miles of Ocean Coast (linear miles)	127
Miles of Ocean Coast (sq. mi. of jurisdictional waters)	454
<b>Wetlands</b>	
Acres of Freshwater Wetlands	739,160
Acres of Tidal Wetlands	209,269
<b>Notes:</b>	
1 Includes coastal waters within New Jersey jurisdiction as shown on Figure II-2, based on the sum of 151 HUC-11 watersheds using 1986 Land Use/Land Cover GIS coverage.	
2 Excludes coastal waters within New Jersey jurisdiction as shown on Figure II-1, based on the sum of 5 Water Regions using 1986 Land Use/Land Cover GIS coverage.	
3 Not included in the total miles of rivers and streams	

It should be noted that the data provided in this report are different than data reported in the 2000 New Jersey Water Quality Inventory Report. Although the same computer based mapping system (GIS) was used to determine river miles, lake acreage, and estuarine areas; the data was reviewed and updated to more accurately reflect the state's hydrology. Non-tidal rivers were extensively edited, including reducing the number of canals and ditches by removing ditches in cranberry bogs. For estuarine waters, tidal rivers were not included in total area as in previous reports. In addition, the number of lakes and lake acreage was reduced by excluding municipal and industrial holding ponds, cranberry bogs, and merging lakes that shared the same name and were hydraulically connected.

The five Water Regions in the state are shown on Figure AII-1 in the Appendix. These include the Northwest (1,226 sq. miles), Lower Delaware (2,228 sq. miles), Northeast (953 sq. miles), Raritan (1,284 sq. miles) and Atlantic Coastal (2,877 sq. miles). Drainage areas include New Jersey portions only.

The 5 Water Regions have been divided into 20 Watershed Management Areas (WMA's) for Management purposes, as shown on Figure AII-1. Watershed Management Areas are comprised of 151 HUC-11 watersheds, which are shown on Figure AII-2. These 151 HUC-11 watersheds are part of a national system of watershed based hydrologic units (HUC's) developed by the United States Geological Survey, United States Soil Conservation Service and the US Environmental Protection Agency.

Figure II-1 New Jersey Watershed Management Areas and Regions

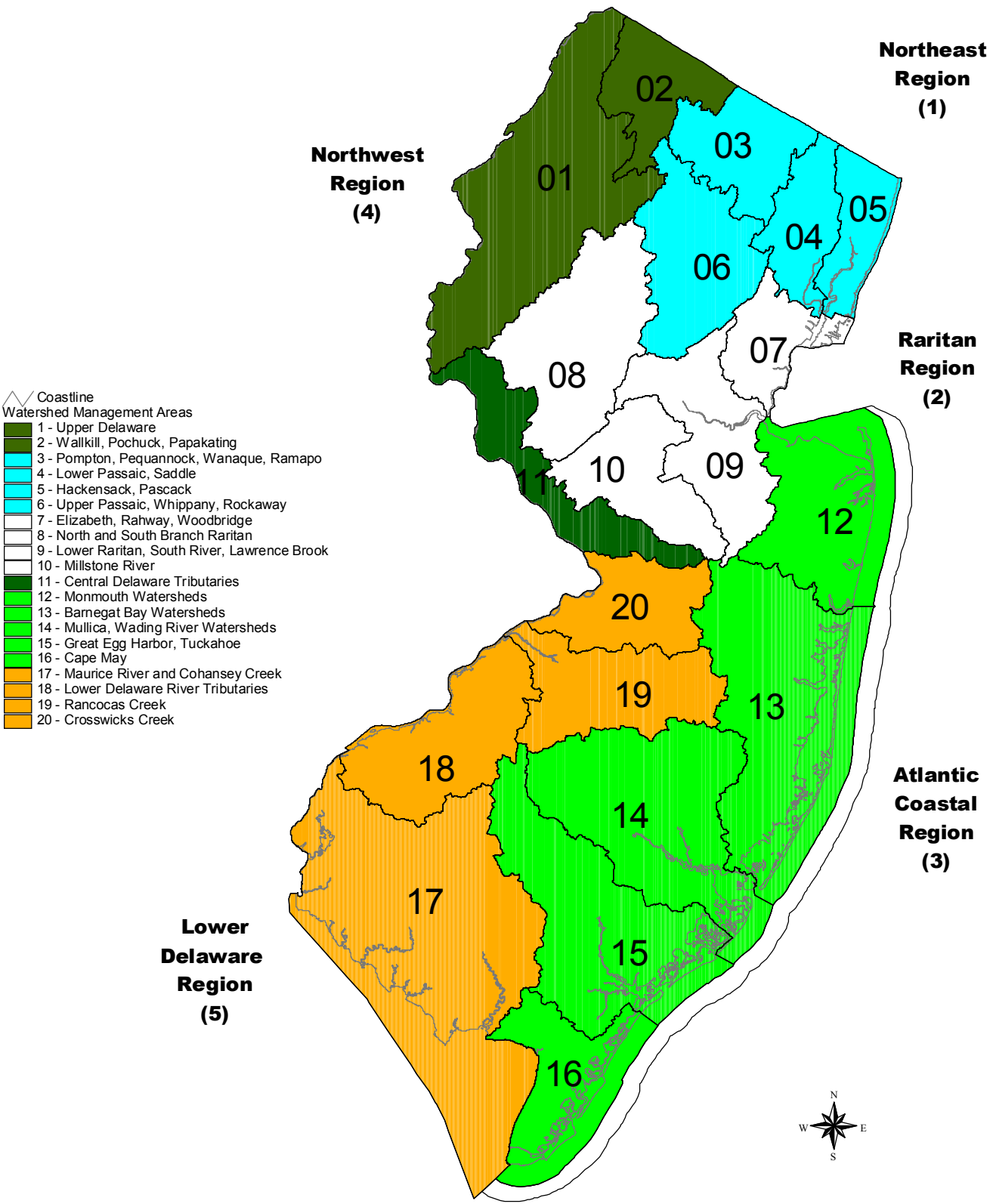
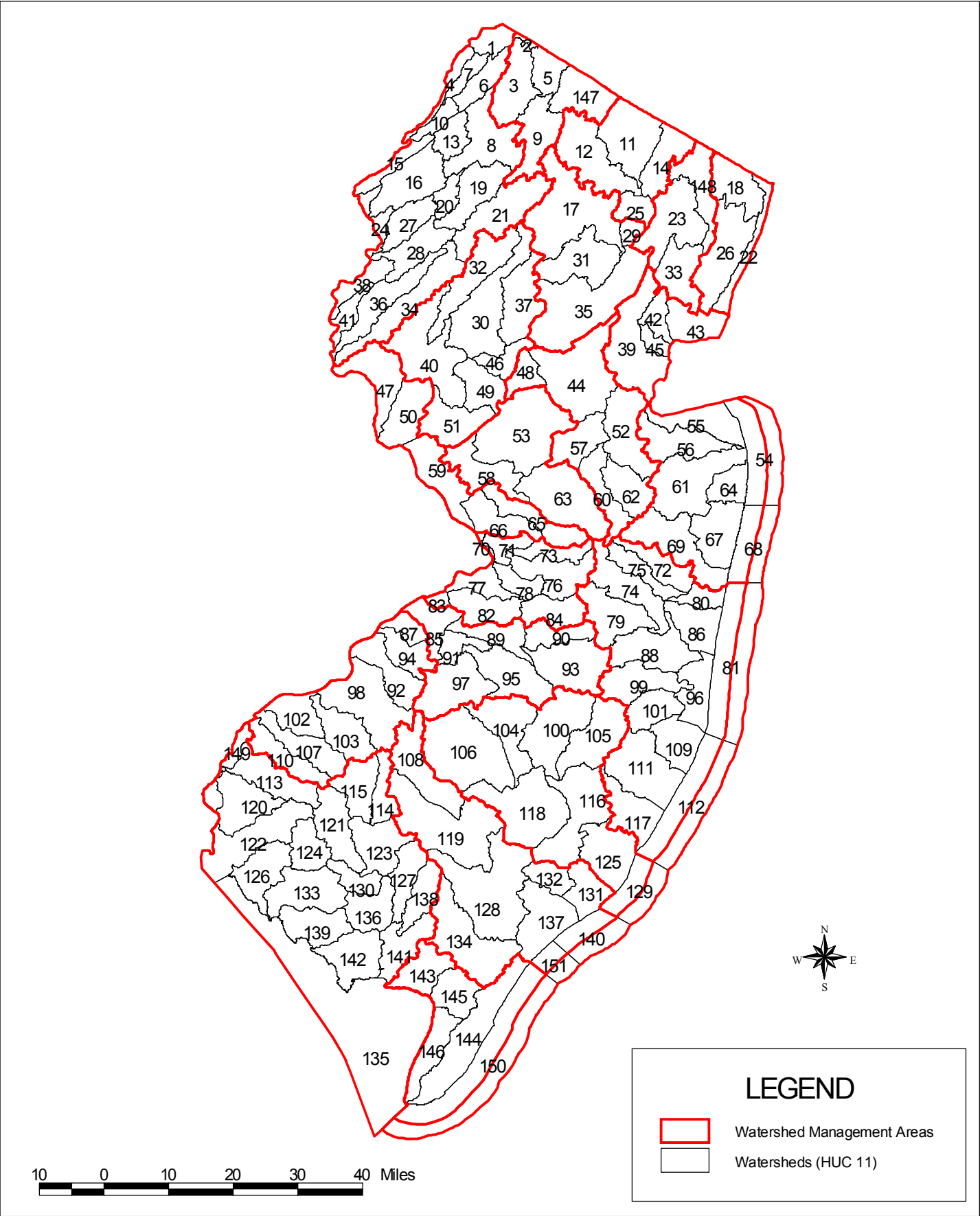


Figure II-2 New Jersey Watersheds (HUC 11)



## Designated Use Summary Tables

### River and Stream – Non Tidal

#### Individual Use Support Summary Table: River and Stream miles (National Uses)

Rivers and Streams Designated Use	Total Miles Assessed	Sublist 1		Sublist 3		Sublist 4		Sublist 5	
		monitored	estimated	monitored	estimated	monitored	estimated	monitored	estimated
Overall Use Support									
Aquatic Life Support <sup>1</sup>	2,462	639	44	964	0	0	0	731	84
Primary Contact Recreation <sup>2</sup>	2,064	318	172	62	1	6	0	1,229	282
Agricultural Use <sup>3</sup>	1,921	1,280	422	190	29	0	0	0	0
Industrial Use <sup>4</sup>	2,148	909	366	265	7	0	0	491	110
Drinking Water	2,109	1,555	453	71	0	0	0	17	13
Fish Consumption	376	0	0	0	0	0	0	376	0

<sup>1</sup> - based upon assessments of benthic macroinvertebrate communities

<sup>2</sup> - based upon assessments of fecal coliform

<sup>3</sup> - based upon assessments of total dissolved solids

<sup>4</sup> - based upon assessments of pH and total suspended solids

### River and Stream – Tidal

#### Individual Use Support Summary Table: River and Stream miles (National Uses)

Ocean Designated Use	Total Sq. Miles Assessed	Sublist 1		Sublist 3		Sublist 4		Sublist 5	
		monitored	estimated	monitored	estimated	monitored	estimated	monitored	estimated
Overall Use Support									
Aquatic Life Support <sup>1</sup>	95	76	0	0	0	0	0	19	0
Primary Contact Recreation <sup>2</sup>	97	53	0	0	0	0	0	44	0
Fish Consumption	330	0	0	0	0	0	0	330	0
Shellfish Consumption	887	29	0	0	0	0	0	858	0

<sup>1</sup> - based upon assessments of dissolved oxygen

<sup>2</sup> - based upon assessments of fecal coliform

### Lakes

#### Individual Use Support Summary Table: Lake Acres (National Uses)

Lake Designated Use	Total Acres Assessed	Sublist 1		Sublist 3		Sublist 4		Sublist 5	
		monitored	estimated	monitored	estimated	monitored	estimated	monitored	estimated
Overall Use Support									
Aquatic Life Support <sup>1</sup>	11,861	7,916	0	0	0	0	0	3,945	0
Primary Contact Recreation <sup>2</sup>	18,638	15,148	0	17	0	0	0	3,473	0
Fish Consumption	14,570	0	0	0	0	0	0	14,570	0

<sup>1</sup> - Lakes in this category are assessed via the Bureau of Fresh Water Fisheries.

<sup>2</sup> - based on 271 of 318 lake bathing beaches that have been located on GIS. GPS locations of remaining lakes are being collected and will be available for a future report.

## Estuaries

### Individual Use Support Summary Table: Estuaries in Sq. Miles (National Uses)

Estuary Designated Use	Total Sq. Miles Assessed	Sublist 1		Sublist 3		Sublist 4		Sublist 5	
		monitored	estimated	monitored	estimated	monitored	estimated	monitored	estimated
Overall Use Support									
Aquatic Life Support <sup>1</sup>	258	173	0	0	0	0	0	85	0
Primary Contact Recreation <sup>2</sup>	268	252	0	14	0	0	0	2	0
Fish Consumption	430	0	0	0	0	0	0	430	0
Shellfish Consumption <sup>3</sup>	600	434	0	31	0	0	0	135	0

<sup>1</sup> - based upon assessments of dissolved oxygen levels

<sup>2</sup> - based upon assessments of fecal coliform

<sup>3</sup> - These numbers reflect all waters located within New Jersey's jurisdiction including Delaware Bay, Sandy Hook Bay and Raritan Bay. The Interstate Environmental Commission (IEC) submits a 305(b) Report for interstate waters which includes parts of Raritan and Sandy Hook Bays and the 305(b) Report submitted by the Delaware River Basin Commission (DRBC) includes portions of Delaware Bay. NJ will work with EPA to identify NJ waters assessed by IEC and DRBC to eliminate double counting these waters in the national 305(b) Report.

## Ocean

### Individual Use Support Summary Table: Ocean in Sq. Miles (National Uses)

Ocean Designated Use	Total Sq. Miles Assessed	Sublist 1		Sublist 3		Sublist 4		Sublist 5	
		monitored	estimated	monitored	estimated	monitored	estimated	monitored	estimated
Overall Use Support									
Aquatic Life Support <sup>1</sup>	454	136	0	0	0	0	0	318	0
Primary Contact Recreation <sup>2</sup>	446	446	0	0	0	0	0	0	0
Fish Consumption	185	0	0	0	0	0	0	185	0
Shellfish Consumption	453	393	0	0.25	0	0.2	0	60	0

<sup>1</sup> - based upon assessments of dissolved oxygen levels

<sup>2</sup> - based upon assessments of fecal coliform

## Coastal Waters

### Individual Use Support Summary Table: Coastal Waters in Sq. Miles <sup>1</sup> (National Uses)

Coastal Waters Designated Use	Total Sq. Miles Assessed	Sublist 1		Sublist 3		Sublist 4		Sublist 5	
		monitored	estimated	monitored	estimated	monitored	estimated	monitored	estimated
Overall Use Support									
Aquatic Life Support <sup>2</sup>	712	309	0	0	0	0	0	403	0
Primary Contact Recreation <sup>3</sup>	714	698	0	14	0	0	0	2	0
Fish Consumption	615	0	0	0	0	0	0	615	0
Shellfish Consumption <sup>4</sup>	1,053	827	0	31	0	0.2	0	195	0

<sup>1</sup> - this table provides a sum of Estuarine and Ocean Tables

<sup>2</sup> - based upon assessments of dissolved oxygen levels

<sup>3</sup> - based upon assessments of fecal coliform

<sup>4</sup> - These numbers reflect all waters located within New Jersey's jurisdiction including Delaware Bay, Sandy Hook Bay and Raritan Bay. The Interstate Environmental Commission (IEC) submits a 305(b) Report for interstate waters which includes parts of Raritan and Sandy Hook Bays and the 305(b) Report submitted by the Delaware River Basin Commission (DRBC) includes portions of Delaware Bay. NJ will work with EPA to identify NJ waters assessed by IEC and DRBC to eliminate double counting these waters in the national 305(b) Report.